









































Table 8.1. Buoyant density (g/ml <sup>-1</sup> ) of macromolecules in density gradient media					
Native DNA	1.71	1.43	1.12	1.13	1.12
Denatured DNA	1.73	1.45	1.14	1.17	1.16
RNA	>1.9	1.64	1.17	1.18	1.18
Polysaccharides	1.62		1.28	1.29	
Proteins	1.3	1.3	1.27	1.27	1.26
Proteoglycans		1.46			
Data from Ford and Rickwood	1 (1983), Rickwood (	(1992) and Rickw CH, CH	ood and Patel (1996).		
	ЭН	со он со	' I '	CH2OH	









![](_page_13_Picture_0.jpeg)

![](_page_13_Figure_1.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_14_Figure_1.jpeg)

![](_page_15_Figure_0.jpeg)

![](_page_15_Figure_1.jpeg)

![](_page_16_Figure_0.jpeg)

How does density gradient centrifugation of DNA/SWNTs stand up to our criteria?

- Scalable (YES)
- Compatible with SWNTs of all lengths (YES) and diameters (NO)
- Utilizes non-covalent (YES) / reversible (NO) functionalization
- Iteratively repeatable (NO)
- Economical (NO)

![](_page_16_Figure_7.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_1.jpeg)

![](_page_18_Picture_0.jpeg)

![](_page_18_Picture_1.jpeg)

![](_page_19_Figure_0.jpeg)

![](_page_19_Figure_1.jpeg)

![](_page_20_Figure_0.jpeg)

![](_page_20_Figure_1.jpeg)

![](_page_21_Figure_0.jpeg)

![](_page_21_Figure_1.jpeg)

![](_page_22_Figure_0.jpeg)

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![](_page_25_Figure_0.jpeg)

![](_page_25_Figure_1.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_26_Figure_1.jpeg)

![](_page_27_Figure_0.jpeg)

How does density gradient centrifugation of surfactant/SWNTs stand up to our criteria?

- Scalable (YES)
- Compatible with SWNTs of all lengths (YES) and diameters (YES)
- Utilizes non-covalent (YES) / reversible (YES) functionalization
- Iteratively repeatable (YES)
- Economical (YES)

![](_page_27_Figure_7.jpeg)

![](_page_28_Figure_0.jpeg)

![](_page_28_Figure_1.jpeg)

![](_page_29_Figure_0.jpeg)

![](_page_29_Figure_1.jpeg)

![](_page_30_Figure_0.jpeg)

![](_page_30_Figure_1.jpeg)

![](_page_31_Figure_0.jpeg)

![](_page_31_Figure_1.jpeg)

![](_page_32_Picture_0.jpeg)

![](_page_32_Figure_1.jpeg)

![](_page_33_Figure_0.jpeg)

![](_page_33_Picture_1.jpeg)